

Use your calculator to find the solution to each system of equations.

$$\begin{aligned}y &= -3x + 2 \\ y &= 2x - 3\end{aligned}$$

$$\begin{aligned}y &= -3x - 13 \\ -x - 2y &= -4\end{aligned}$$

Use substitution or elimination to solve each system of equations.

$$\begin{aligned}y &= 5x + 2 \\ y &= 3x\end{aligned}$$

$$\begin{aligned}y &= -x + 3 \\ -x - 3y &= -1\end{aligned}$$

$$\begin{aligned}3x + y &= 16 \\ 2x - 3y &= -4\end{aligned}$$

EXTENDED RESPONSE The table shows the expected life spans at birth for men and women born in the years 1996–2000.

Years since 1996, x	Men's life span (years), m	Women's life span (years), w
0	73.0	79.0
1	73.6	79.4
2	73.8	79.5
3	73.9	79.4
4	74.3	79.7

- Write an equation of the best-fitting line for the data pairs (x, m) .
- Write an equation of the best-fitting line for the data pairs (x, w) .
- Graph the equations from parts (a) and (b) and estimate the coordinates of the intersection point. *Explain* what this point represents.

GRIDDED ANSWER Your school is planning a 5 hour outing at a community park. The park rents bicycles for \$8 per hour and inline skates for \$6 per hour. The total budget per student is \$34. A student bikes and skates the entire time and uses all the money budgeted. How many hours does the student spend inline skating?

WORK SCHEDULE You worked 14 hours last week and earned a total of \$96 before taxes. Your job as a lifeguard pays \$8 per hour, and your job as a cashier pays \$6 per hour. How many hours did you work at each job?

★ **SHORT RESPONSE** A gym offers two options for membership plans. Option A includes an initiation fee of \$121 and costs \$1 per day. Option B has no initiation fee but costs \$12 per day. After how many days will the total costs of the gym membership plans be equal? How does your answer change if the daily cost of Option B increases? *Explain.*

Solve the system of equations. Write your solution as an ordered triple.

$$3x + y + z = 14$$

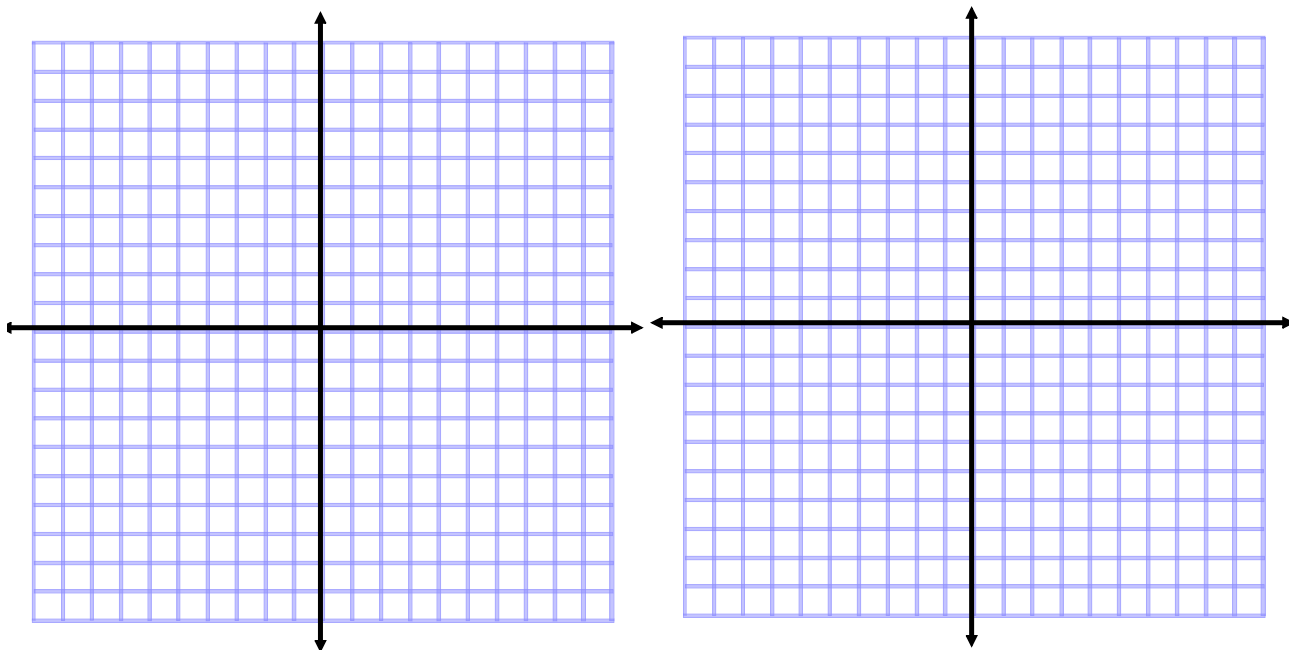
$$-x + 2y - 3z = -9$$

$$5x - y + 5z = 30$$

Graph the system of inequalities.

$$\begin{aligned}4x - 4y &\geq -16 \\ -x + 2y &\geq -4\end{aligned}$$

$$\begin{aligned}3x + 2y &> -6 \\ -5x + 2y &> -2 \\ y &< 5\end{aligned}$$



Chapter 2 Review.

①

One beautiful summer day, Doug was driving back home to Colorado from Moab, Utah. After 1 hours of driving, Doug was 210 miles from home. After 4 hours of driving, Doug was 27 miles from home.

- Write the given information about the time and distance from home as ordered pairs.
- Find the linear equation that relates Doug's distance from home (y) after x hours of driving.
- how long will it take Doug to reach home?

②

Given the function

$$y = |x - 2| - 4$$

- a) Label the parent function: _____

Label the coordinates of the vertex of the child function: _____

- b) Describe the transformation of the child function.

Horizontal Shift: _____

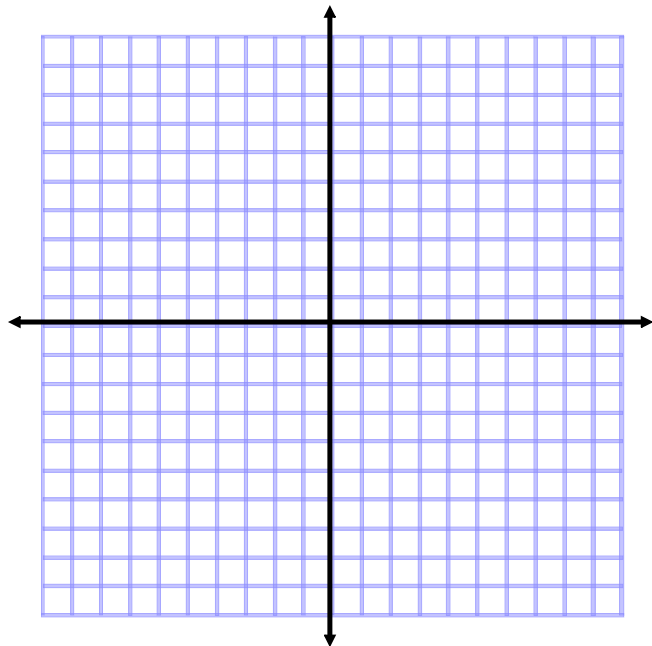
Vertical Shift: _____

- c) Use Interval Notation to give the domain & range of the child function below.

State the Domain: _____

State the Range: _____

- d) Graph BOTH the parent function and the baby function on the coordinate plane.



③

GIVEN $f(x) = 2x + 1$ & $g(x) = x^3$

FIND: a) $f(-3)$ b) $g(2)$ c) $\frac{g(3)}{f(4)}$